

CASTING A WIDER NET: EXPANDING EXISTING IUU FISHING FRAMEWORKS TO  
ADDRESS SEA SLAVERY

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*“It was the Law of the Sea, they said. Civilization ends at the waterline. Beyond that, we all enter the food chain, and not always right at the top.”*

– Hunter S. Thompson<sup>2</sup>

I. INTRODUCTION

Human beings have been fishing the oceans since time immemorial.<sup>3</sup> With the introduction of the steam engine and the continuing development of fishing technologies, the carved-out wooden canoes of artisanal fishermen have been relegated to a small subset of coastal communities.<sup>4</sup> Fishing the oceans today are industrial trawlers with nets as wide as a football field and the capacity to decimate entire ecosystems.<sup>5</sup> In 2020, 78.8 million tons of fish were caught in the oceans.<sup>6</sup> Today, global fishing and aquaculture production has reached a historic level and is forecast to increase by approximately an additional 15% by 2030.<sup>7</sup>

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<sup>2</sup> HUNTER S. THOMPSON, GENERATION OF SWINE: TALES OF SHAME AND DEGRADATION IN THE '80s (1988).

<sup>3</sup> Terence Barrington Thomas et al., *Fishing Recreation*, ENCYCLOPEDIA BRITANNICA (2023), <https://www.britannica.com/topic/fishing-recreation>.

<sup>4</sup> Artisanal fishing refers to fishing occurring on smaller vessels under 12 meters and the use of passive gear, like traps, throw nets and hooks. See Marie Lecoq, *Explainer: Are We Witnessing the Last Generation of Artisanal Fishers?* EURO NEWS (Dec. 14, 2022, 5:44 PM), [www.euronews.com/green/2022/12/08/explainer-are-we-witnessing-the-last-generation-of-artisanal-fishers](http://www.euronews.com/green/2022/12/08/explainer-are-we-witnessing-the-last-generation-of-artisanal-fishers).

<sup>5</sup> See *Harmful Gear: Trawls, Longlines & Gillnets*, OCEANA, <https://usa.oceana.org/harmful-gear-trawls-longlines-gillnets/> (last visited Nov. 10, 2023); Ferdinand K.J. Oberle et al., *What a Drag: Quantifying the Global Impact of Chronic Bottom Trawling on Continental Shelf Sediment*, 159 J. MARINE SYSTEMS 109 (July 2016).

<sup>6</sup> FOOD & AGRIC. ORG., THE STATE OF WORLD FISHERIES AND AQUACULTURE: TOWARDS BLUE TRANSFORMATION, xviii (2022), <https://www.fao.org/3/cc0461en/cc0461en.pdf>.

<sup>7</sup> *Towards Blue Transformation: A Vision for Transforming Aquatic Food Systems*, FOOD & AGRIC. ORG., <https://www.fao.org/state-of-fisheries-aquaculture> (last visited Nov. 14, 2023).

As global seafood production increases, the sustainability of fish stocks steadily declines.<sup>8</sup> The fraction of fish stocks within biologically sustainable levels decreased to 64.6% in 2019, 1.2% lower than in 2017.<sup>9</sup> As fish stocks close to shore deplete, fishing vessels must travel farther out to sea to meet global seafood demand and keep the industry afloat.<sup>10</sup> The dire situation in the world's fisheries and the significant money involved in the seafood trade has led to illegal, unregulated, and unreported fishing (IUU fishing) practices in fleets around the world.<sup>11</sup> Today, 20% of internationally traded fish are illegally caught.<sup>12</sup>

IUU fishing could not occur with such regularity without vessels and crews funded by large industrial fishing companies desperate to remain viable. When the Gulf of Thailand, a lucrative hotspot for commercial fishing, became so overfished that fishermen could no longer make a living, they resorted to fishing further out on the high seas.<sup>13</sup> These distant water fleets, which fish outside of their own country's Exclusive Economic Zone (EEZ),<sup>14</sup> venture into the high seas, and sometimes the EEZs of other nations, to land their catch.<sup>15</sup> But, bringing workers that far out to sea and then returning them regularly to their families was

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<sup>8</sup> *Overfishing*, WORLD WILDLIFE FUND, <https://www.worldwildlife.org/threats/overfishing> (last visited Nov. 14, 2023).

<sup>9</sup> FOOD & AGRIC. ORG., *supra* note 6, at xvi

<sup>10</sup> David Leonhardt, *China's Huge Appetite for Fish*, N.Y. TIMES (Sept. 27, 2022), <https://www.nytimes.com/2022/09/27/briefing/china-fishing-galapagos.html>.

<sup>11</sup> *See What is IUU Fishing?*, FOOD & AGRIC. ORG., <https://www.fao.org/iuu-fishing/background/what-is-iuu-fishing/en/> (last visited Nov. 14, 2023).

<sup>12</sup> *Shocking Facts About Fishing That You Need to Know*, ANIMAL EQUALITY (June 10, 2023), <https://animalequality.org/blog/2020/05/29/shocking-fishing-facts/>; *see generally* Tony Long & Huw Thomas, *Seafood Supply Chain Is Key in Efforts to End Illegal Fishing*, PEW CHARITABLE TRUSTS (Apr. 6, 2017), <https://www.pewtrusts.org/en/research-and-analysis/articles/2017/04/06/seafood-supply-chain-is-key-in-efforts-to-end-illegal-fishing>; *Stop Illegal Fishing*, SEAFOOD WATCH, <https://www.seafoodwatch.org/seafood-basics/sustainable-solutions/stop-illegal-fishing> (last visited Nov. 14, 2023).

<sup>13</sup> ENV'T JUST.FOUND., THAILAND'S SEAFOOD SLAVES: HUMAN TRAFFICKING, SLAVERY AND MURDER IN KANTANG'S FISHING INDUSTRY 27 (2015), <https://ejfoundation.org/resources/downloads/EJF-Thailand-Seafood-Slaves-low-res.pdf>.

<sup>14</sup> U.N. Convention on the Law of the Sea, art. 57, Dec. 10, 1982, 1833 U.N.T.S. 397 [hereinafter UNCLOS]. The Exclusive Economic Zone (EEZ) is a term of art under UNCLOS. The EEZ of a coastal state extends out to 200 nautical miles from established baselines. Within the EEZ, a coastal state has sovereign rights over the exploitation of natural resources, like fish.

<sup>15</sup> Ian Urbina, *The Crimes Behind the Seafood You Eat*, THE NEW YORKER (Oct. 9, 2023), <https://www.newyorker.com/magazine/2023/10/16/the-crimes-behind-the-seafood-you-eat>.

economically impractical and the high seas offered a new set of dangers to an already daunting industry.<sup>16</sup> So, Thailand and other nations, resorted to modern-day slavery.<sup>17</sup>

Deep water vessels in Thailand drugged, trafficked, debt-bonded, and enslaved vulnerable migrant workers to populate fishing vessels.<sup>18</sup> Thailand is not the only nation in the world to struggle with sea slavery. Recent reports have detailed violence and slavery in the Chinese distant-water fleet, which is estimated to be worth more than thirty-five billion dollars.<sup>19</sup> Sea slavery is a horrific byproduct of commercial fishing and corporate greed. Borne out of overfishing, sea slavery exists now to enable it.

Part I of this article describes the scope and impacts of IUU fishing and the extensive human rights violations occurring at sea enabled by IUU fishing practices. Part II outlines the existing and developing IUU fishing governance frameworks in international law, particularly the UN Agreement on Port State Measures to Prevent, Deter and Eliminate Illegal, Unreported, and Unregulated Fishing (2009),<sup>20</sup> the International Labor Organization Work in Fishing Convention (2017),<sup>21</sup> the European Union (EU) Regulation to Prevent, Deter and Eliminate Illegal, Unreported, and Unregulated Fishing,<sup>22</sup> and the United States Seafood Import Monitoring Program.<sup>23</sup> Part III recommends that by defining IUU

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<sup>16</sup> *Id.*

<sup>17</sup> See Esther Htusan & Margie Mason, *More Than 2,000 Enslaved Fishermen Rescued in 6 Months*, ASSOCIATED PRESS (Sept. 17, 2015), <https://www.ap.org/explore/seafood-from-slaves/more-than-2,000-enslaved-fishermen-rescued-in-6-months.html>.

<sup>18</sup> GHOST FLEET (Vulcan Productions 2019), <https://ff.hrw.org/film/ghost-fleet>.

<sup>19</sup> Sea slavery is used here to encompass debt-bondage, human trafficking, and forced labor at sea. See Ian Urbina, *Sea Slaves: The Human Misery that Feeds People and Livestock*, N.Y. TIMES (July 27, 2015), <https://www.nytimes.com/2015/07/27/world/outlaw-ocean-thailand-fishing-sea-slaves-pets.html>; *Seafood Slavery*, CENTER FOR AMERICAN PROGRESS (Dec. 15, 2016), <https://www.americanprogress.org/article/seafood-slavery/>; Urbina, *supra* note 15.

<sup>20</sup> Agreement on Port State Measures to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated Fishing, FAO (Nov. 22, 2009), <https://www.fao.org/3/i5469t/I5469T.pdf> [hereinafter PSMA].

<sup>21</sup> International Labor Organization, Work in Fishing Convention, May 30, 2007, I.L.O. No. 188, [https://www.ilo.org/dyn/normlex/en/f?p=NORMLEXPUB:12100:0::NO::P12100\\_INSTRUMENT\\_ID:312333](https://www.ilo.org/dyn/normlex/en/f?p=NORMLEXPUB:12100:0::NO::P12100_INSTRUMENT_ID:312333) (hereinafter ILO C-188).

<sup>22</sup> Council Regulation 1005/2008, 2008 O.J. (L 286) 1 (EC).

<sup>23</sup> 15 C.F.R. § 902 (2022).

fishing to include sea slavery, the monumental strides that have been made to end IUU fishing can be leveraged to combat slavery at sea and ensure that both illegalities are addressed. To facilitate this coordinated effort, Part III proposes increased satellite surveillance to inform more expansive port inspections, national seafood import regimes, and changes in fisheries subsidies.

## II. ESTABLISHING THE CONNECTION BETWEEN IUU FISHING AND SEA SLAVERY

IUU fishing and sea slavery are often recognized as related but seldom addressed as such. Solutions aimed at IUU fishing tend to be resource-driven, to preserve fish stocks for the seafood trade.<sup>24</sup> Sea slavery exists to allow IUU fishing to continue, passing the human costs of slavery onto consumers in the form of cheaper seafood.<sup>25</sup> This section defines IUU fishing and its detrimental effects, defines sea slavery and its expansive scope, and establishes the connection between IUU fishing and sea slavery, which are not merely related but so inextricably linked that they cannot be separated.

### A. Defining IUU Fishing and Its Effects

The Food and Agriculture Organization of the United Nations (FAO) International Plan of Action to Prevent, Deter and Eliminate Illegal, Unreported, and Unregulated Fishing (IPOA-IUU) defines illegal fishing as

[F]ishing conducted by national or foreign vessels in waters under the jurisdiction of a State, without the permission of that State, or

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<sup>24</sup> See generally *Understanding Illegal, Unreported and Unregulated Fishing*, NOAA, <https://www.fisheries.noaa.gov/insight/understanding-illegal-unreported-and-unregulated-fishing#how-does-iuu-fishing-affect-the-seafood-industry-and-u.s.-consumers>? (last visited Nov. 14, 2023); *The Toll of Illegal, Unreported and Unregulated Fishing*, UNITED NATIONS, <https://www.un.org/en/observances/end-illegal-fishing-day> (last visited Nov. 14, 2023).

<sup>25</sup> See Ian Urbina, *'Life at Sea is Cheap': Brutalities, Slavery Used to Catch U.S. Pet Food*, SEATTLE TIMES (July 27, 2015, 1:40 PM), <https://www.seattletimes.com/nation-world/migrant-fishermen-recount-labor-abuse-at-sea-for-us-pet-food/>; Alyssa Rosenberg, *How Lawlessness and Ignorance Are Harming Our Oceans*, WASH. POST (Sept. 12, 2019, 10:14 PM), [https://www.washingtonpost.com/outlook/how-lawlessness-and-ignorance-are-harming-our-oceans/2019/09/12/6420fd7c-cf50-11e9-8c1c-7c8ee785b855\\_story.html](https://www.washingtonpost.com/outlook/how-lawlessness-and-ignorance-are-harming-our-oceans/2019/09/12/6420fd7c-cf50-11e9-8c1c-7c8ee785b855_story.html).

in contravention of its laws and regulations; conducted by vessels flying the flag of States that are parties to a relevant organization but operate in contravention of the conservation and management measures adopted by that organization and by which the States are bound, or relevant provisions of the applicable international law; or in violation of national laws or international obligations, including those undertaken by cooperating States to a relevant regional fisheries management organization.<sup>26</sup>

The FAO also defines unreported and unregulated fishing, though the definition of illegal fishing is most relevant to this analysis.<sup>27</sup>

IUU fishing has extensive environmental effects, which have spurred the relatively quick call to action by the international community.<sup>28</sup> IUU fishing also diminishes efforts to conserve vulnerable fish stocks and achieve measurable progress toward sustainable fisheries.<sup>29</sup> IUU fishing often targets already vulnerable stocks and fisheries already under moratoria or strict regulatory

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<sup>26</sup> INTERNATIONAL PLAN OF ACTION TO PREVENT, DETER AND ELIMINATE ILLEGAL, UNREPORTED AND UNREGULATED FISHING, FOOD & AGRIC. ORG. 2 (2001), [https://www.wto.org/english/tratop\\_e/rulesneg\\_e/fish\\_e/2001\\_ipoa\\_iuu.pdf](https://www.wto.org/english/tratop_e/rulesneg_e/fish_e/2001_ipoa_iuu.pdf) [hereinafter IPOA-IUU]. The IPOA-IUU is a voluntary instrument addressing the nature and scope of IUU fishing. It proposes objectives and measures to prevent, deter and eliminate IUU fishing. The binding instruments that have followed the IPOA-IUU rely on the definition of IUU fishing outlined in article 3 of the IPOA-IUU.

<sup>27</sup> *Id.*

<sup>28</sup> See Tetsuji Ida, *Why Illegal Fishing Must Be Stamped Out on Environmental and Humanitarian Grounds*, WORLD ECONOMIC FORUM (Apr. 6, 2023), [https://www.weforum.org/agenda/2023/04/why-illegal-fishing-must-be-stamped-out-on-environmental-and-humanitarian-grounds/#:~:text=According%20to%20the%20Food%20and%20endeavors%20to%20conserve%20marine%20biodiversity.](https://www.weforum.org/agenda/2023/04/why-illegal-fishing-must-be-stamped-out-on-environmental-and-humanitarian-grounds/#:~:text=According%20to%20the%20Food%20and%20endeavors%20to%20conserve%20marine%20biodiversity.;); *Illegal Fishing Degrades the Environment*, SHARE AMERICA (Nov. 25, 2020), <https://share.america.gov/illegal-fishing-degrades-environment/>.

<sup>29</sup> See Joseph Christensen, *Illegal, Unreported and Unregulated Fishing in Historical Perspective*, in PERSPECTIVES ON OCEANS PAST 133-53 (Schwerdtner, Poulsen eds., 2016), [https://link.springer.com/chapter/10.1007/978-94-017-7496-3\\_8#chapter-info](https://link.springer.com/chapter/10.1007/978-94-017-7496-3_8#chapter-info); *Sustainable Seafood*, WORLD WILDLIFE FUND, <https://www.worldwildlife.org/industries/sustainable-seafood> (last visited Apr. 1, 2023).

controls.<sup>30</sup> The further exploitation of depleted fisheries undermines those stocks' capacity to rebuild.<sup>31</sup>

IUU fishing leads to the economic undercutting of legitimate fishing vessels.<sup>32</sup> Recently, a Chinese distant-water vessel at the center of current investigative reports, the *Zhen Fa 7*, was tracked entering Ecuadorian and Peruvian waters, where, contrary to Chinese law, the ship turned off its location transponder several times for days, likely to fish in forbidden waters.<sup>33</sup> If IUU fishers can target closed fisheries, fish in the EEZs of other nations, operate without licenses, or use falsified documentation, they create unfair competition in international trade.<sup>34</sup>

#### B. Defining Sea Slavery and How it Has Developed

Modern slavery is defined as any “[S]ituation of exploitation that a person cannot refuse or leave because of threats, violence, coercion, deception, and/or abuse of power. . . including forced labor, debt bondage, forced marriage, slavery and slavery-like practices and human trafficking.”<sup>35</sup> Due to the nature of the fishing industry and the historical difficulty in monitoring and enforcing potential violations on the high seas, the exact number of men and children enslaved at sea is unknown.<sup>36</sup> However, studies conducted by Global Fishing Watch, which uses Automatic Identification Systems (AIS) on fishing vessels to identify vessels likely engaged in forced labor, have suggested that up to 26% of 16,000 vessels

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<sup>30</sup> *Id.*

<sup>31</sup> *Blue Economy*, THE WORLD BANK (Sept. 15, 2023), <https://www.worldbank.org/en/topic/oceans-fisheries-and-coastal-economies>.

<sup>32</sup> U.S. COAST GUARD, ILLEGAL, UNREPORTED, AND UNREGULATED FISHING STRATEGIC OUTLOOK 10 (2020), [https://www.uscg.mil/Portals/0/Images/iuu/IUU\\_Strategic\\_Outlook\\_2020\\_Final.pdf](https://www.uscg.mil/Portals/0/Images/iuu/IUU_Strategic_Outlook_2020_Final.pdf).

<sup>33</sup> Urbina, *supra* note 15.

<sup>34</sup> *Id.*

<sup>35</sup> INT'L LAB. ORG., GLOBAL ESTIMATES OF MODERN SLAVERY: FORCED LABOUR AND FORCED MARRIAGE (2017), [https://www.ilo.org/wcmsp5/groups/public/---dgreports/---dcomm/documents/publication/wcms\\_575479.pdf](https://www.ilo.org/wcmsp5/groups/public/---dgreports/---dcomm/documents/publication/wcms_575479.pdf).

<sup>36</sup> See Matthew Gianni & Walt Simpson, *The Changing Nature of High Seas Fishing: How Flags of Convenience Provide Cover for Illegal, Unreported and Unregulated Fishing*, WORLD WILDLIFE FUND INT'L (2005), <http://assets.wwf.org.uk/downloads/flagsofconvenience.pdf>.

tracked via AIS, were likely to be engaged in sea slavery, with as many as 100,000 people estimated to work on those ships.<sup>37</sup>

The South China Sea hosts the most pervasive examples of forced labor in the fishing industry.<sup>38</sup> The Outlaw Ocean Project, a non-profit journalism organization, has widely documented enslaved labor in the South China Sea, particularly within the Thai and Chinese fishing fleets.<sup>39</sup> The investigations into slave vessels have documented inadequate safety and medical care, twenty-hour workdays, abuse, murder, debt bondage, and the forced usage of amphetamines to enable crews to work longer.<sup>40</sup> An International Labor Organization (ILO) survey of 596 fishers aboard Thai vessels found that 25% worked between 17 and 24 hours each day, while another 41% reported they worked an indefinite period of time.<sup>41</sup>

The fishers are regularly beaten, tortured, and restrained at sea.<sup>42</sup> A report by the U.N. Inter-Agency Project on Human Trafficking (UNIAP) found that 59% of the migrants enslaved on Thai fishing vessels had witnessed the murder of a fellow worker.<sup>43</sup> A report on the Chinese distant water fleet, the world's largest fleet with up to 6,500 distant-water fishing ships,<sup>44</sup> found that 85% of Indonesian workers aboard Chinese vessels worked in abusive working and living

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<sup>37</sup> Gavin McDonald et al, *Satellites Can Reveal Global Extent of Forced Labor in the World's Fishing Fleet*, 118 PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES NO. 3 (2020), <https://www.pnas.org/doi/10.1073/pnas.2016238117>.

<sup>38</sup> Urbina, *supra* notes 15 and 19.

<sup>39</sup> THE OUTLAW OCEAN PROJECT, [www.theoutlawocean.com](http://www.theoutlawocean.com) (last visited Nov. 14, 2023).

<sup>40</sup> Ian Urbina, *Slavery is Not Gone, it Has Just Moved Out to Sea*, THE OUTLAW OCEAN PROJECT (Oct. 10, 2022), <https://www.theoutlawocean.com/reporting/slavery-is-not-gone-it-has-just-moved-out-to-sea/>.

<sup>41</sup> INT'L LAB. ORG., EMPLOYMENT PRACTICES AND WORKING CONDITIONS IN THAILAND'S FISHING SECTOR 52 (2013), <https://www.ilo.org/dyn/migpractice/docs/184/Fishing.pdf>.

<sup>42</sup> *Id.* at 75.

<sup>43</sup> UNITED NATIONS INTER-AGENCY PROJECT ON HUMAN TRAFFICKING, EXPLOITATION OF CAMBODIAN MEN AT SEA 5 (2009), [https://www.ilo.org/wcmsp5/groups/public/---ed\\_norm/---declaration/documents/publication/wcms\\_143251.pdf](https://www.ilo.org/wcmsp5/groups/public/---ed_norm/---declaration/documents/publication/wcms_143251.pdf).

<sup>44</sup> For reference, the United States has fewer than 300 distant-water fishing vessels. *See* Urbina, *supra* note 15.



conditions.<sup>45</sup> A staggering 97% said they had experienced debt bondage or had their passports confiscated, effectively rendering them powerless at the behest of vessel captains.<sup>46</sup>

Men and boys enslaved on distant water fishing fleets come to be enslaved in several ways.<sup>47</sup> Most often, workers are lured by “recruiters” with the promise of agricultural work and good pay.<sup>48</sup> They are told that the recruiter will cover the cost to travel to the work site and in exchange, they can work off their debt at the beginning of their employment.<sup>49</sup> Then, the men are taken illegally into the country and sold to fishing vessel captains who consider them indebted indefinitely.<sup>50</sup>

To ensure that the workers are kept in forced labor, vessels stay out at sea for months, or even years at a time without ever docking.<sup>51</sup> Supply ships will rendezvous with vessels to provide fuel and supplies to keep the ships functioning and the workers in floating prisons.<sup>52</sup> Without the forced labor of migrant or debt-

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<sup>45</sup> *Global Impact of Illegal Fishing and Human Rights Abuse in China's Vast Distant Water Fleet Revealed*, ENV'T JUST. FOUND. (Apr. 5, 2022), <https://ejfoundation.org/news-media/global-impact-of-illegal-fishing-and-human-rights-abuse-in-chinas-vast-distant-water-fleet-revealed-2>.

<sup>46</sup> *Id.*

<sup>47</sup> See *Thailand's Seafood Slaves*, *supra* note 13, at 12; *Forced Labour and Human Trafficking in Fisheries*, INT'L LAB. ORG., <https://www.ilo.org/global/topics/forced-labour/policy-areas/fisheries/lang--en/index.htm> (last visited Nov. 15, 2023); Travis Sutton & Avery Siciliano, *Seafood Slavery*, CENTER FOR AMERICAN PROGRESS (Dec. 15, 2016), <https://www.americanprogress.org/article/seafood-slavery/>; INTERPOL warning on human trafficking links to the fishing industry, INTERPOL (May 4, 2017), <https://www.interpol.int/fr/Actualites-et-evenements/Actualites/2017/INTERPOL-warning-on-human-trafficking-links-to-the-fishing-industry>.

<sup>48</sup> *Thailand's Seafood Slaves*, *supra* note 13.

<sup>49</sup> Travis Sutton & Avery Siciliano, *Seafood Slavery*, CENTER FOR AMERICAN PROGRESS (Dec. 15, 2016), <https://www.americanprogress.org/article/seafood-slavery/>.

<sup>50</sup> *Id.*

<sup>51</sup> *Ghost Fleet*, *supra* note 17.

<sup>52</sup> *Hidden Chains: Rights Abuses and Forced Labor in Thailand's Fishing Industry*, HUMAN RIGHTS WATCH (Jan. 23, 2018) [hereinafter *Hidden Chains*], <https://www.hrw.org/report/2018/01/23/hidden-chains/rights-abuses-and-forced-labor-thailands-fishing-industry>.



bonded workers, countries like Thailand could not continue to engage in IUU fishing to supply its \$9 billion seafood industry.<sup>53</sup>

### C. The Connection Between IUU Fishing and Sea Slavery

IUU fishing and sea slavery operate in a cycle that feeds into itself in the remote reaches of the seas. Unsustainable fishing practices lead to overfishing.<sup>54</sup> Overfishing leads to a decrease in catches and an increase in the effort needed to successfully land a catch.<sup>55</sup> This cost deficiency leads to a rise in fishing costs, which, if passed on to consumers, would not meet the demand for cheap seafood products worldwide.<sup>56</sup> As a result, fishers are forced to cut operating costs.<sup>57</sup> Some operating costs like fuel and gear are necessary and immovable. Labor costs, however, can be refashioned and misrepresented to keep the products affordable.<sup>58</sup>

The need for lower labor costs not only facilitates sea slavery but also creates deplorable conditions surrounding the work.<sup>59</sup> These conditions often lead to the crewmembers becoming critically ill, yet unable to access medical attention because the ship captains do not want to risk being caught in the act of illegal fishing.<sup>60</sup> The reduced labor cost then allows vessel owners to undercut the

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<sup>53</sup> *Fisheries and Aquaculture*, FOOD & AGRIC. ORG., [https://www.fao.org/fishery/statistics-query/en/trade/trade\\_value](https://www.fao.org/fishery/statistics-query/en/trade/trade_value) (last visited Nov. 15, 2023).

<sup>54</sup> *Blood and Water*, ENVIRONMENTAL JUSTICE FOUNDATION, <https://ejfoundation.org/reports/blood-and-water> (last visited Nov. 15, 2023).

<sup>55</sup> *Id.*

<sup>56</sup> *Global Slavery Index*, WALK FREE <https://www.walkfree.org/global-slavery-index/2018/findings/importing-risk/fishing/> (last visited Nov. 15, 2023).

<sup>57</sup> A 2018 study revealed that up to 54% of high-seas fishing grounds would be unprofitable without government subsidization and extremely low labor costs. Enric Sala et al., *The Economics of Fishing the High Seas*, 4 *SCIENCE ADVANCES* 6 (2018), <https://www.science.org/doi/10.1126/sciadv.aat2504>.

<sup>58</sup> See Mallika Talwar, *What's Keeping the Unprofitable High Seas Fishing Industry Going? Simple: Forced Labour*, GREENPEACE (June 5, 2022), <https://www.greenpeace.org/international/story/54183/unprofitable-high-seas-fishing-industry-forced-labour-iuu/>; *Following Forced Labor in the World's Fishing Fleets*, GLOBAL FISHING WATCH, <https://globalfishingwatch.org/blog/new-study-unveils-risk-of-forced-labor-in-fisheries> (last visited Nov. 15, 2023).

<sup>59</sup> JJ Rose, *Caught in the Net: Slavery on Southeast Asian Seas*, LOWY INSTITUTE (Oct. 31, 2018), <https://www.lowyinstitute.org/the-interpreter/caught-net-slavery-southeast-asian-seas/>.

<sup>60</sup> Urbina, *supra* note 15

market rates, to which fishers not utilizing slave labor are subject.<sup>61</sup> It effectively creates a “race to the bottom,” wherein fleets must aim to catch the most fish with the lowest cost of labor. This, in turn, restarts the cycle by incentivizing overfishing.<sup>62</sup> This overfishing happens all over the world’s oceans, including by fleets in the EEZs of other nations, thereby reducing their ability to utilize the resources in their own coastal waters.<sup>63</sup>

The direct causal link between IUU fishing and sea slavery is widely documented.<sup>64</sup> Yet, fishers are often called a hidden workforce.<sup>65</sup> The vastness and inaccessibility of the high seas have largely shielded the fishing industry from enforcement, and existing international mechanisms for addressing human rights and labor have been ineffective.<sup>66</sup> IUU fishing, however, has been effectively addressed through several international, regional, and national frameworks.

### III. AN OVERVIEW OF EXISTING FRAMEWORKS TO ADDRESS IUU FISHING AND SEA SLAVERY

Existing legal mechanisms have failed to prevent sea slavery from developing because monitoring and enforcement of human rights on the high seas are difficult.<sup>67</sup> Understanding the complexity of applying human rights to the high

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<sup>61</sup> *Id.*

<sup>62</sup> *Blood and Water*, *supra* note 55.

<sup>63</sup> Testimony from recent escapees in the Kantang fishing district in Thailand revealed that fleets routinely “plundered the waters” of Malaysia and Indonesia. *Thailand’s Seafood Slaves*, *supra* note 13, at 7.

<sup>64</sup> See generally *Global Impact of Illegal Fishing and Human Rights Abuse in China’s Vast Distant Water Fleet Revealed*, *supra* note 46. (noting that 95% of crewmembers from China’s fleet witnessed IUU fishing, including illegal shark finning, the clubbing of seals, and the use of dolphins as bait for sharks); *Illegal Fishing and Human Rights Abuses at Sea*, OCEANA, [https://usa.oceana.org/wpcontent/uploads/sites/4/4046/oceana\\_illegal\\_fishing\\_and\\_human\\_rights\\_abuses\\_at\\_sea\\_fact\\_sheet\\_hr.pdf](https://usa.oceana.org/wpcontent/uploads/sites/4/4046/oceana_illegal_fishing_and_human_rights_abuses_at_sea_fact_sheet_hr.pdf) (last visited Nov. 15, 2023); Elizabeth R. Selig, et al., *Revealing Global Risks of Labor Abuse and Illegal, Unreported and Unregulated Fishing*, 13 NATURE COMMUNICATIONS 1612 (2022); ENV’T JUST. FOUND., *BLOOD AND WATER: HUMAN RIGHTS ABUSE IN THE GLOBAL SEAFOOD INDUSTRY* (2019), <https://ejfoundation.org/reports/blood-and-water-human-rights-abuse-in-the-global-seafood-industry>.

<sup>65</sup> *Blood and Water*, *supra* note 55, at 10.

<sup>66</sup> E.g., ILO Forced Labor Convention (1930); International Maritime Labor Convention (2013); U.N. Protocol to Prevent, Suppress and Punish Trafficking in Persons, especially Women and Children (2000); U.N. Convention Against Transnational Organized Crime (2000).

<sup>67</sup> E.g., ILO Forced Labor Convention (1930), U.N. Convention on Slavery (1927).

seas, Human Rights at Sea, a UK-based non-governmental organization (NGO), has worked with an interdisciplinary team to draft the Geneva Declaration on Human Rights at Sea.<sup>68</sup> The declaration is a framework that refines and consolidates international law obligations, and “provides practical guidance to states on how to ensure human rights at sea.”<sup>69</sup> The declaration is not legally binding as it has not been formally adopted by any International bodies, and it would not create systems for effectively addressing sea slavery in tandem with IUU fishing.<sup>70</sup>

Existing international measures aimed at IUU fishing, attempt to bridge the gap in monitoring and enforcement, by broadening jurisdiction over fishing vessels and creating a cooperative transnational framework.<sup>71</sup> This section explores that framework beginning with the UN Agreement on Port State Measures (PSMA),<sup>72</sup> and the International Labour Organization Work in Fishing Convention.<sup>73</sup> This section will also outline several important regional and domestic frameworks to address IUU fishing: The EU Regulation to Prevent, Deter and Eliminate IUU Fishing,<sup>74</sup> the United States Seafood Import Monitoring Program,<sup>75</sup> and the United States Moratorium Protection Act.<sup>76</sup>

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<sup>68</sup> *The Geneva Declaration on Human Rights at Sea*, HUMAN RIGHTS AT SEA, <https://www.humanrightsatsea.org/GDHRAS> (last visited Nov. 29, 2023) [hereinafter GDHRAS].

<sup>69</sup> *Id.* (quoting Anna Petrig).

<sup>70</sup> GDHRAS seeks to highlight the issue of enforcement and give advice to states on how to better protect human rights at sea. However, it does not contain any enforcement mechanisms for its own provisions. It is a soft law agreement that, although aimed at the right goal, merely restates that existing human rights agreements “apply at sea as they do on land.” *Id.*

<sup>71</sup> *How to End Illegal Fishing*, PEW CHARITABLE TRUSTS (Dec. 12, 2017), <https://www.pewtrusts.org/en/research-and-analysis/issue-briefs/2017/12/how-to-end-illegal-fishing>.

<sup>72</sup> PSMA, *supra* note 20.

<sup>73</sup> ILO C-188, *supra* note 21.

<sup>74</sup> Council Regulation 1005/2008, Establishing a Community System to Prevent, Deter, and Eliminate Illegal, Unreported and Unregulated Fishing, 2008 O.J. (L 286) 1 (EC) [hereinafter EU Regulation].

<sup>75</sup> Seafood Import Monitoring Program, 50 C.F.R. § 300.320 (2016) [hereinafter SIMP].

<sup>76</sup> High Seas Driftnet Moratorium Protection Act, 87 Fed. Reg. 40763 (proposed Jul. 8, 2022) (to be codified at 50 C.F.R. § 300.201) [hereinafter MPA].

## A. UN Agreement on Port State Measures

The UN Agreement on Port State Measures (PSMA) is the first binding international agreement aimed specifically at combating IUU fishing.<sup>77</sup> It operates by implementing a system wherein port states can verify that vessels seeking to use their ports have not engaged in IUU fishing.<sup>78</sup> The overarching goal is to ensure that illegally caught fish do not enter the international seafood market, thereby eliminating the profitability of IUU fishing, to discourage the practice.<sup>79</sup> Under the United Nations Convention on the Law of the Sea (often referred to as UNCLOS), jurisdiction over a fishing vessel and the people on board is held by the flag state.<sup>80</sup> Flag states are responsible for ensuring that the ship and its operators are observing all relevant laws and regulations, thereby placing the onus of enforcement on flag states.<sup>81</sup>

Flags of convenience have created jurisdictional loopholes in the fishing industry.<sup>82</sup> A flag of convenience (FoCs) is when the “beneficial ownership and control of a vessel is found to be elsewhere than in the country of the flag the vessel is flying.”<sup>83</sup> Specific to the fishing sector, FoCs are usually also considered flags of non-compliance (FoNCs).<sup>84</sup> FoNCs are those flag states that “exhibit a consistent pattern of failure with its international obligations” to enforce international laws and norms.<sup>85</sup> This allows the vessels to escape the enforcement

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<sup>77</sup> PSMA, *supra* note 19.

<sup>78</sup> *Agreement on Port State Measures (PSMA)*, FOOD & AGRIC. ORG., <https://www.fao.org/port-state-measures/en/> (last visited Nov. 29, 2023).

<sup>79</sup> *Id.*

<sup>80</sup> UNCLOS, *supra* note 13, at art. 94.

<sup>81</sup> *Id.*

<sup>82</sup> Kimbra Cutlip, *Flag of Convenience or Cloak of Malfeasance?*, GLOBAL FISHING WATCH (Feb. 22, 2017), <https://globalfishingwatch.org/fisheries/flag-of-convenience-or-cloak-of-malfeasance/>.

<sup>83</sup> Dana Miller & U. Rashid Sumaila, *Flag Use Behavior and IUU Activity Within the International Fishing Fleet*, 44 MARINE POLICY 204-211 (2014), <https://www.sciencedirect.com/science/article/abs/pii/S0308597X13001930>.

<sup>84</sup> ENV’T JUST.. FOUND., OFF THE HOOK – HOW FLAGS OF CONVENIENCE LET ILLEGAL FISHING GO UNPUNISHED (2020), <https://ejfoundation.org/resources/downloads/EJF-report-FoC-flags-of-convenience-2020.pdf>

<sup>85</sup> *Id.*

of the nation they should be flagged under in favor of a different nation that will not engage in any enforcement at all.<sup>86</sup>

The PSMA is meant to supplement flag-state responsibility by allowing port states to contribute to the monitoring of vessel activities, share information, and even request that flag states take specific actions before they can be allowed port access.<sup>87</sup> Presently, the PSMA adopts the definition of IUU fishing in the 2001 FAO International Plan of Action to Prevent, Deter and Eliminate IUU Fishing, one of the legal predecessors to the binding PSMA.<sup>88</sup> There are currently 74 parties to the PSMA, including Thailand and the United States.<sup>89</sup>

Additionally, the PSMA establishes the Global Information Exchange System (GIES), which is currently in its pilot phase.<sup>90</sup> This system enables parties to exchange information regarding port denials, inspection results, and flag-state response actions with other states, the FAO, International organizations, and regional fisheries management organizations.<sup>91</sup> Currently, the GIES hosts data related to port entry and use, denials of port entry, withdrawal of denials of port entry, and port inspections.<sup>92</sup> It is a way to increase the ability of states to effectively monitor and identify problematic vessels and hold each other accountable for their shared responsibilities to ensure the PSMA is effectively implemented.<sup>93</sup>

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<sup>86</sup> *Id.*

<sup>87</sup> *Agreement on Port State Measures (PSMA)*, supra note 79, at Benefits of Implementing PSMA.

<sup>88</sup> IPOA-IUU, supra note 26, at art. 3.

<sup>89</sup> Increasing the number of parties to the PSMA is critical to effective monitoring and enforcement. *Agreement on Port State Measures (PSMA)*, supra note 79, at Parties to the PSMA.

<sup>90</sup> The GIES system was launched in 2021 and is currently available to engage with in its pilot phase. In its current iteration, the GIES records port entry and denials, withdrawal of denials, and port inspections. See PSMA GIES Dashboard, FOOD & AGRIC. ORG., <https://psma-gies.review.fao.org> (last visited Nov. 29, 2023).

<sup>91</sup> *Id.*

<sup>92</sup> *Id.*

<sup>93</sup> *Id.*

## B. The International Labor Organization Work in Fishing Convention (C188)

The ILO Work in Fishing Convention (Work in Fishing) entered into force in 2017.<sup>94</sup> To date, 20 countries have ratified the treaty.<sup>95</sup> Thailand ratified the treaty in 2019 after facing pressure from the European Union.<sup>96</sup> China has not ratified the treaty and has done very little to curb sea slavery in its fishing fleet.<sup>97</sup> The Work in Fishing Convention establishes minimum safety, labor, and recruitment standards that each ratifying nation should implement in its commercial fishing industry and allows for vessels to be subject to labor inspections in foreign ports.<sup>98</sup>

Articles 43 and 44 of the Work in Fishing Convention address the inspection of foreign vessels by member states.<sup>99</sup> If a member state receives a complaint or obtains evidence that one of its flagged vessels is not in compliance with the Work in Fishing Convention, the state must ensure that the vessels are brought into compliance.<sup>100</sup> Additionally, member states who obtain evidence that a foreign vessel in its port is not in compliance with the requirements of the Work in Fishing Convention may prepare a report for the flag state and the Director-General of the ILO outlining the hazardous conditions.<sup>101</sup> Additionally, member states are required to ensure that their implementation of the Work in

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<sup>94</sup> ILO C-188, *supra* note 21.

<sup>95</sup> *Ratifications of C188 – Working in Fishing Convention, 2007 (No. 188)*, INT'L LAB. ORG., [https://www.ilo.org/dyn/normlex/en/f?p=1000:11300:0::NO:11300:P11300\\_INSTRUMENT\\_ID:312333](https://www.ilo.org/dyn/normlex/en/f?p=1000:11300:0::NO:11300:P11300_INSTRUMENT_ID:312333) (last visited Nov. 29, 2023).

<sup>96</sup> See Rina Chandran, *Activists Warn of Gaps as EU Lifts Ban Threat on Thai Fishing Industry*, REUTERS (Jan. 8, 2019, 8:01 AM), <https://www.reuters.com/article/eu-thailand-fishing-idINL8N1Z8396>; *ITS and FRN to Monitor Implementation of Thai Law*, JUSTICE FOR FISHERS (Jan. 7, 2019), <https://justiceforfishers.org/itf-frn-to-monitor-implementation-of-thai-law/>; but see, Nontarat Phaicharoen & Mariyam Ahmad, *Groups Urge Thailand to Step Up Action to Protect Foreign Fishermen*, BENAR NEWS (June 29, 2021), <https://www.benarnews.org/english/news/thai/fishers-rights-06292021145304.html>.

<sup>97</sup> *Ratifications of C188, supra* note 96.

<sup>98</sup> *ILO Work in Fishing Convention (2007) C188*, SEAFISH, <https://www.seafish.org/responsible-sourcing/tools-for-ethical-seafood-sourcing/records/ilo-work-in-fishing-convention-2007-c188/> (last visited Nov. 29, 2023).

<sup>99</sup> ILO C-188, *supra* note 21.

<sup>100</sup> *Id.* at art. 43.

<sup>101</sup> *Id.*

Fishing Convention does not favor states that have not ratified the convention over those who have—thereby seeking to create a level playing field in the industry.

C. EU Regulation to Prevent, Deter, And Eliminate IUU Fishing

The EU Regulation to Prevent, Deter, And Eliminate IUU Fishing (EU Regulation) functions by imposing a catch certification scheme and carding process.<sup>102</sup> The catch certification process requires that all wild-caught seafood being imported into the EU has a Legal Harvest document accompanying it.<sup>103</sup> This document is validated by the competent authority in the flag state of the vessel that caught the fish.<sup>104</sup> The Legal Harvest document specifies the origin and legality of the fish to ensure the traceability of seafood products imported into the EU.<sup>105</sup>

The EU Regulation authorizes the European Commission to take action against countries that inadequately address IUU fishing in their fishing fleets.<sup>106</sup> Countries may be “yellow-carded,” meaning they require reforms to adequately address IUU fishing.<sup>107</sup> After a country is carded, the European Commission details what changes must be made to restore good standing.<sup>108</sup> If the yellow-carded country fails to comply with the suggested reforms, the EU issues a “red

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<sup>102</sup> EU Regulation, *supra* note 75, at arts. 12-22.

<sup>103</sup> *Id.*

<sup>104</sup> *Id.*

<sup>105</sup> *What is the EU IUU Regulation*, IUU WATCH, <https://www.iuuwatch.eu/the-iuu-regulation/> (last visited Nov. 29, 2023).

<sup>106</sup> EU Regulation, *supra* note 75, at arts. 23-24.

<sup>107</sup> The most frequently cited shortcomings in Commission decisions to identify non-EU states under the regulation were related to national legal frameworks, fulfillment of flag state obligations, coastal state implementation of conservation management mechanisms, regional and multilateral cooperation, and market state measures and traceability. ENV'T JUST. FOUND. ET AL., IMPROVING PERFORMANCE IN THE FIGHT AGAINST ILLEGAL, UNREPORTED AND UNREGULATED (IUU) FISHING 8 (2016), [https://www.iuuwatch.eu/wp-content/uploads/2015/06/3rdCountryCardingGuidelinesReport\\_FINAL.LOW\\_.pdf](https://www.iuuwatch.eu/wp-content/uploads/2015/06/3rdCountryCardingGuidelinesReport_FINAL.LOW_.pdf)

<sup>108</sup> *Id.*



card,” which can include sanctions and trade bans on the carded country’s fisheries products.<sup>109</sup>

Thailand received a yellow card in 2015 for failing to adequately address IUU fishing.<sup>110</sup> Despite sea slavery not being included in the definition of IUU fishing, the EU raised concerns about forced labor in the Thai fishing fleets and required Thailand to take steps to ensure products entering the EU did not involve forced labor.<sup>111</sup> After receiving the yellow card, Thailand signed on to the PSMA and implemented better laws and regulations.<sup>112</sup> Thailand’s yellow card has since been removed.<sup>113</sup> While Thailand has vowed to comply with labor standards, the regime it has implemented has done little to improve sea slavery in the region.

In response to the yellow card, Thailand established the Port-in, Port-Out (PIPO) system, which requires vessels to report for inspections upon departure and arrival.<sup>114</sup> The system has been characterized as “largely a theatrical exercise for international consumption.”<sup>115</sup> The farce of PIPO inspections plays out in the failure of inspection officials to conduct interviews with the actual workers, instead speaking only to ship captains and skippers and checking for

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<sup>109</sup> To date, six nations have received red cards from the EU after failing to implement substantive improvements in their IUU fishing management schemes: Belize, Cambodia, Guinea, Sri Lanka, St. Vincent, and the Grenadines and Comoros. EUROPEAN PARLIAMENT, *ILLEGAL, UNREPORTED, AND UNREGULATED (IUU) FISHING 2* (2022), [https://www.europarl.europa.eu/RegData/etudes/ATAG/2017/614599/EPRS\\_ATA\(2017\)614599\\_EN.pdf](https://www.europarl.europa.eu/RegData/etudes/ATAG/2017/614599/EPRS_ATA(2017)614599_EN.pdf).

<sup>110</sup> *EU Acts on Illegal Fishing: Yellow Card Issued to Thailand While South Korea & Phillipines are Cleared*, EUROPEAN COMMISSION (Apr. 22, 2015), <https://ec.europa.eu/newsroom/mare/items/22708>.

<sup>111</sup> Elaine Young, *Thailand’s Fisheries Management Transformation is a Model for Fighting Illegal Fishing*, PEW CHARITABLE TRUSTS (Aug. 9, 2022), <https://www.pewtrusts.org/en/research-and-analysis/articles/2022/08/09/thailands-fisheries-management-transformation-is-a-model-for-fighting-illegal-fishing>.

<sup>112</sup> *Id.*

<sup>113</sup> *Commission Lifts “Yellow Card” from Thailand for Its Actions Against Illegal Fishing*, EUROPEAN COMMISSION (Jan. 8, 2019), [https://ec.europa.eu/commission/presscorner/detail/en/IP\\_19\\_61](https://ec.europa.eu/commission/presscorner/detail/en/IP_19_61).

<sup>114</sup> *Thailand: Forced Labor, Trafficking Persist in Fishing Fleets*, HUMAN RIGHTS WATCH (Jan. 23, 2018, 2:30 AM EST), <https://www.hrw.org/news/2018/01/23/thailand-forced-labor-trafficking-persist-fishing-fleets>.

<sup>115</sup> *Id.*

documentation provided by the Thai government.<sup>116</sup> The relevant documentation is a paper trail to feign compliance.<sup>117</sup>

D. United States Seafood Import Monitoring Program and  
Moratorium Protection Act

The United States is the single largest country market for seafood.<sup>118</sup> Since 2018, the Seafood Import Monitoring Program (SIMP),<sup>119</sup> implemented by the National Oceanic and Atmospheric Administration (NOAA), has monitored the importation of about half of the seafood into the United States market.<sup>120</sup> The goal of the program is to establish seafood traceability that allows the U.S. to ensure that the imported seafood is not the product of IUU fishing or seafood fraud.<sup>121</sup> The SIMP is not public-facing and does not cover every species imported into the U.S., only those NOAA has identified as high-risk for IUU fishing and fraud.<sup>122</sup> The SIMP does not currently monitor for forced labor in the supply chain.

On June 27, 2022, President Biden released the Memorandum on Combating Illegal, Unreported, and Unregulated Fishing, and Associated Labor Abuses.<sup>123</sup> In the memorandum, President Biden acknowledges that “IUU fishing often involves forced labor...and other human rights abuses.”<sup>124</sup> He directs government agencies to address IUU fishing and sea slavery comprehensively,

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<sup>116</sup> See *Hidden Chains*, *supra* note 53.

<sup>117</sup> *Id.*

<sup>118</sup> More than 85% of seafood consumed in the US is imported. More than 85% of seafood consumed in the US is imported. Joseph Biden, Memorandum on Combating Illegal Unreported, and Unregulated Fishing and Associated Labor Abuses, White House: Presidential Actions NSM-11 § 5 (June 27, 2022) [hereinafter Biden Memorandum], <https://www.whitehouse.gov/briefing-room/presidential-actions/2022/06/27/memorandum-on-combating-illegal-unreported-and-unregulated-fishing-and-associated-labor-abuses/>.

<sup>119</sup> SIMP, *supra* note 76.

<sup>120</sup> *Seafood Import Monitoring Program Facts and Reports*, NAT’L OCEANIC & ATMOSPHERIC ASS’N, <https://www.fisheries.noaa.gov/international/international-affairs/seafood-import-monitoring-program-facts-and-reports#overview> (last accessed Nov. 29, 2023).

<sup>121</sup> *Id.*

<sup>122</sup> The SIMP currently covers 13 different species groups, all identified by NOAA as high-risk for IUU fishing, seafood fraud or both. However, NOAA has published a proposed rule that would add species to the SIMP. Seafood Import Monitoring Program, 87 Fed. Reg. 79836 (Dec. 28, 2022) (to be codified at 50 C.F.R. § 300.320).

<sup>123</sup> Biden Memorandum, *supra* note 120.

<sup>124</sup> *Id.*

recognizing that they often occur together.<sup>125</sup> The memorandum also directs agencies to use the “full range of existing conservation, labor, trade, and national security authorities to address the challenges.”<sup>126</sup>

The memorandum’s recognition of sea slavery within the seafood supply chain is a sensible reframing of the issue in terms of the product it creates, and the memorandum should be applauded for what it establishes. Much like labor abuses in factories and “sweatshops” are viewed in terms of the products created, sea slavery must be tackled in the same way. For example, section 307 of the Tariff Act of 1930 prohibits imports produced with forced labor.<sup>127</sup> U.S. Customs and Border Protection enforces the forced labor prohibition.<sup>128</sup> However, due to a lack of information, transparency, and stakeholder cooperation, only a few vessels have seen their seafood imports seized.<sup>129</sup> President Biden’s memorandum highlights the need for interagency and international cooperation by directing the Secretary of Labor in coordination with NOAA to apply lessons learned from U.S. policies addressing forced labor in the cotton sector to the seafood sector.<sup>130</sup> The memorandum also highlights the importance of transparency throughout the process to engage consumers and invigorate consumer pressures on the seafood supply chain.<sup>131</sup>

President Biden’s memorandum directed the NOAA Administrator to initiate a rulemaking to expand the SIMP to “include additional species and species groups, as appropriate.”<sup>132</sup> The proposed rule expands the SIMP to include additional species; however, it does not seek to address forced labor in the

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<sup>125</sup> *Id.*

<sup>126</sup> *Id.* at § 1.

<sup>127</sup> Tariff Act of 1930, 19 U.S.C. § 1307.

<sup>128</sup> *Id.*

<sup>129</sup> General Notice of Forced Labor Finding, 87 Fed. Reg. 4634 (Dec. 01, 2022); *U.S. Government Blocks Seafood Imports from Taiwanese-Flagged Fishing Vessel for Suspected Forced Labor*, GREENPEACE (Dec. 31, 2020), <https://www.greenpeace.org/usa/news/u-s-government-blocks-seafood-imports-from-taiwanese-flagged-fishing-vessel-for-suspected-forced-labor/>.

<sup>130</sup> Biden Memorandum, *supra* note 120, at § 1(e).

<sup>131</sup> *Id.*

<sup>132</sup> *Id.* § 5(a).

supply chain.<sup>133</sup> Instead, the agency seeks to use the Moratorium Protection Act (MPA) to redefine IUU fishing to include forced labor.<sup>134</sup>

Under the MPA, the National Marine Fisheries Service (NMFS) produces a biennial report to Congress that lists the nations identified as engaging in IUU fishing, bycatch of protected species, or shark catches on the high seas.<sup>135</sup> When a nation is identified, NMFS engages in a collaborative effort to help the nation improve its lacking regulations.<sup>136</sup> If the nation does not make adequate strides to improve its regulatory and enforcement mechanisms, NMFS can issue a negative certification.<sup>137</sup> Negative certifications can result in trade sanctions until the nation complies with U.S. regulatory advice.<sup>138</sup>

In its newly proposed rule, NMFS seeks to amend the definition of IUU fishing in the MPA to include “fishing activities in waters beyond any national jurisdiction that involve the use of forced labor.”<sup>139</sup> This proposed redefinition, if finalized, would be the first legal change to the definition of IUU fishing to explicitly include forced labor, and could have ripple effects throughout existing framework definitions.

The proposed change would give NMFS precautionary discretion in identifying vessels engaged in IUU fishing, with the inclusion of forced labor

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<sup>133</sup> *Id.*

<sup>134</sup> MPA, *supra* note 77.

<sup>135</sup> *Laws and Policies: Magnuson-Stevens Act*, NOAA FISHERIES, <https://www.fisheries.noaa.gov/topic/laws-policies> (last visited Nov. 29, 2023).

<sup>136</sup> *Id.*

<sup>137</sup> *Id.*

<sup>138</sup> NOAA identified thirty-one nations and entities in its 2021 report to Congress under the Moratorium Protection Act. Seven nations were engaged in IUU fishing, and twenty-nine nations were engaged in the bycatch of protected species without bycatch reduction measures comparable to the U.S. in place. Mexico has been restricted from access to U.S. ports for illegally fishing in the Gulf of Mexico. The 2023 report to Congress identified seven nations and entities for reported IUU fishing activities. NOAA will announce the results of its consultations with these nations and entities in its 2025 report. *NOAA Engagement with Nations and Entities Under the Moratorium Protection Act*, NOAA FISHERIES, <https://www.fisheries.noaa.gov/international/noaa-engagement-nations-and-entities-under-moratorium-protection-act#2021-report-to-congress> (last visited Nov. 29, 2023).

<sup>139</sup> MPA, *supra* note 72.

considered.<sup>140</sup> Practically, this change would mean that NMFS could now issue negative certifications to other nations if their fleets are suspected of using forced labor in their fishing fleets.<sup>141</sup>

#### IV. PROPOSING A SUBSTANTIVE REDEFINITION OF IUU FISHING TO INFORM PROCEDURAL CHANGED IN EXISTING LEGAL FRAMEWORKS

IUU fishing should be broadened in scope to include illegal slavery, human trafficking, and debt bondage in its definition and therefore subject these activities to existing governance mechanisms already addressing IUU fishing. Addressing IUU fishing in isolation not only foregoes a valuable chance to address sea slavery simultaneously, but it silos IUU fishing regimes into a purely resource-driven focus instead of promoting true sustainability, which must take into account the men and children undertaking the work.<sup>142</sup> Target 8.7 of the UN Sustainable Development Goals states that nations should “take immediate and effective measures to eradicate forced labor [and] end modern slavery and human trafficking. . . .”<sup>143</sup>

The men and children enslaved in the industry must be protected at sea; however, the solution does not need to be implemented there. Like IUU fishing, sea slavery produces a product that enters an already heavily regulated supply chain on land. By utilizing the same monitoring and enforcement measures currently employed and in development to address IUU fishing, the international community can increase transparency and shared responsibility to facilitate solutions for sea slavery.

##### A. IUU Fishing Must Be Redefined to Include Sea Slavery

When IUU fishing is defined narrowly, or in terms of the illegal behaviors that affect only the fish stocks, reporting requirements, and regulatory regimes, it does not ensure sustainability. A more comprehensive definition of IUU fishing

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<sup>140</sup> *Id.* at 47065.

<sup>141</sup> *Id.*

<sup>142</sup> G.A. Res. 70/1, Transforming Our World: The 2030 Agenda for Sustainable Development (Oct. 21, 2015) [hereinafter Sustainable Development Goals].

<sup>143</sup> *Id.* at 8.7.

would be in line with the UN Sustainable Development Goals and their vision of strategies that go ‘hand-in-hand’ with one another to create true sustainability.<sup>144</sup> Sustainability is “firmly anchored in human rights principles and standards.”<sup>145</sup> Ignoring sea slavery while attempting to ensure fish stocks are not negatively impacted only ignores the very practice that allows distant water fleets to negatively impact fish stocks in the first place. Since the 2001 FAO IPOA-IUU definition of IUU fishing is used in most subsequent IUU fishing frameworks, particularly the PSMA, the FAO should amend the definition to explicitly include sea slavery.<sup>146</sup>

The expansion of the IUU fishing definition to include sea slavery would strengthen the PSMA, empowering ports to inspect vessels suspected of forced labor.<sup>147</sup> The PSMA was meant to embrace the UN Sustainable Development Goals to ensure “a world where no one is left behind.”<sup>148</sup> If the PSMA seeks to embrace the UN Sustainable Development Goals, it should embrace them all, particularly Target 8.7, which aims to eradicate forced labor, modern slavery, and human trafficking; and Target 8.8, which protects the rights and security of all workers, including migrant workers.<sup>149</sup> Without addressing sea slavery, the PSMA cannot adequately address the sustainability of the fishing industry.

Under an expanded definition, the ILO Work in Fishing Convention could benefit from increased ratification as nations seek to demonstrate that their fishing fleets are governed by appropriate labor practices to avoid unnecessary port inspections.<sup>150</sup> Increased ratification of the Work in Fishing Convention would help safeguard fair labor standards, wages, health and safety, and conditions of service for

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<sup>144</sup> *The 17 Goals*, UNITED NATIONS, <https://sdgs.un.org/goals> (last visited Nov. 29, 2023).

<sup>145</sup> *OHCHR and the 2030 Agenda for Sustainable Development*, UNITED NATIONS OFFICE OF THE HIGH COMMISSIONER OF HUMAN RIGHTS (OHCHR), <https://www.ohchr.org/en/sdgs> (last visited Nov. 29, 2023).

<sup>146</sup> PSMA, *supra* note 20, at art. 1(e); IPOA-IUU, *supra* note 26, at art. 3.

<sup>147</sup> PSMA Article 12 governs when a port shall prioritize vessel inspections, namely when (a) vessels have been denied entry or use of another port under the PSMA, (b) other parties, states or fisheries management organizations request that specific vessels be inspected and (c) there are clear grounds for suspecting that they have engaged in IUU fishing. PSMA, *supra* note 19, at art. 12.

<sup>148</sup> PSMA, *supra* note 19, at viii.

<sup>149</sup> Sustainable Development Goals, *supra* note 144.

<sup>150</sup> *See generally* GREENPEACE, BRIEFING PAPER ON RATIFYING AND IMPLEMENTING ILO CONVENTION 188 IN ASEAN MEMBER STATES (2021), [https://www.greenpeace.org/static/planet4-southeastasia-stateless/2021/09/075ce208-gp-sea\\_asean-briefing-paper.pdf](https://www.greenpeace.org/static/planet4-southeastasia-stateless/2021/09/075ce208-gp-sea_asean-briefing-paper.pdf).

all fishers in the industry, regardless of their migrant or debt-bondage status.<sup>151</sup> With a definition that explicitly includes sea slavery in its scope, the U.S. and EU, which both currently use the FAO IUU fishing definition in their domestic frameworks, could expand to address forced labor in the seafood industry as they address IUU fishing.

The journey from bait to plate is convoluted. The seafood supply chain can be tangled, invisible, and unsuspecting, much like the ghost nets left behind by the industry's fleets.<sup>152</sup> For the existing IUU fishing frameworks to effectively reel in the industry and eliminate IUU fishing, the definition must include the practices that enable IUU fishing. Once better defined, IUU frameworks can address sea slavery through improved monitoring, compliance, and shared enforcement.

B. The Expanded Definition of IUU Fishing Should Be Used to Inform Existing Frameworks and Improve Monitoring, Compliance and Enforcement

Increasing monitoring is critical to addressing IUU fishing and sea slavery, yet it is also one of the biggest challenges that existing regimes face. A redefinition of IUU fishing to include sea slavery would be ineffective without corresponding adjustments to monitoring and enforcement mechanisms. To increase the monitoring of vessels potentially engaged in IUU fishing and sea slavery, existing satellite

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<sup>151</sup> Fishing is the most dangerous industry worldwide. In 2021, the average fatality rate in the fishing industry was 15.96, almost a full 2 points higher than the next most dangerous industry, mining. While this data likely does not include the men and boys killed at sea in forced labor, it underscores the danger of a poorly regulated industry to those nations where sea slavery is not of concern. Notably, Canada had the highest fatality rate in the fishing sector. Jan Mirkowski, *The World's Most Dangerous Countries for Workers*, ARINITE (Oct. 20, 2021), <https://www.arinite.co.uk/the-worlds-most-dangerous-countries-for-workers>. See generally *Regions: National Overview*, NAT'L INSTITUTE FOR OCCUPATIONAL SAFETY AND HEALTH, <https://www.cdc.gov/niosh/topics/fishing/nationaloverview.html> (last visited Nov. 29, 2023); DINO DRUDI, BUREAU OF LABOR STATISTICS, FISHING FOR A LIVING IS DANGEROUS WORK (1998), <https://www.bls.gov/opub/mlr/cwc/fishing-for-a-living-is-dangerous-work.pdf>; Press Release, Int'l Lab. Org., Fishing Among the Most Dangerous of All Professions, Says ILO (Dec. 13, 1999), [https://www.ilo.org/global/about-the-ilo/newsroom/news/WCMS\\_071324/lang--en/index.htm](https://www.ilo.org/global/about-the-ilo/newsroom/news/WCMS_071324/lang--en/index.htm).

<sup>152</sup> Ghost nets are fishing nets that have been abandoned or discarded in the ocean. The nets are often invisible to wildlife and entangle fish, dolphins, sea turtles, and other creatures. See Graeme Macfadyen et al., *Abandoned, Lost, or Otherwise Discarded Fishing Gear*, UNITED NATIONS ENVIRONMENT PROGRAMME (2009).



monitoring and data analytics should be employed to inform port inspections and government response. A database of vessels identified as potentially engaging in IUU fishing or sea slavery should be established to inform work under the PSMA, EU Regulation, and U.S. SIMP and MPA inspection regimes. To ensure that all vessels have the necessary technologies on board to submit to satellite monitoring, governments should focus fishing subsidies on the technological growth of their fleets to ensure compliance and participation in monitoring and include the requirement that the requisite technology is employed in their regional trade agreements.

*i. Using Existing Satellite Monitoring and Data Analytics to Monitor, Track and Identify Vessels Engaged in IUU Fishing and Sea Slavery*

There are presently two different types of satellite monitoring devices used by vessels in the fishing industry. The Vessel Monitoring System (VMS) is a tool specific to fisheries management systems, regulated regionally and nationally to assist in fisheries management and analysis.<sup>153</sup> The Automatic Identification System (AIS) is a collision avoidance system that transmits vessel locations and is required by international law for vessels over a certain size.<sup>154</sup>

Both systems operate by using satellite tracking to ping vessel locations.<sup>155</sup> AIS vessel tracking is an open, public system, while VMS data is typically not public

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<sup>153</sup> TACONET, KROODSMAS, & FERNANDES, FOOD & AGRIC. ORG., GLOBAL ATLAS OF AIS-BASED FISHING ACTIVITY - CHALLENGES AND OPPORTUNITIES 1-2 (2019), <https://www.fao.org/3/ca7012en/CA7012EN.pdf>.

<sup>154</sup> AIS responders are required for ships of 300 gross tonnage and upwards engaged in international voyages and all passenger ships regardless of size. International Maritime Organization (IMO) Convention for the Safety of Life at Sea (SOLAS) V/19 (2004). Nations and intergovernmental agencies are creating more stringent AIS requirements for vessels under their jurisdiction. This is expected to increase in practice. *See Understanding Fishing Activity Using AIS and VMS*, GLOBAL FISHING WATCH, <https://globalfishingwatch.org/wp-content/uploads/Understanding-Fishing-Activity.pdf> (last visited Nov. 29, 2023); *Frequently Asked Questions*, GLOBAL FISHING WATCH, <https://globalfishingwatch.org/faqs/what-vessels-are-required-to-use-ais-what-are-global-regulations-and-requirements-for-vessels-to-carry-ais/> (last visited Nov. 29, 2023).

<sup>155</sup> *Id.*

facing, though governments are beginning to trend toward sharing VMS data.<sup>156</sup> Regional fisheries management organizations (RFMOs) are increasingly beginning to manage centralized VMS databases on behalf of their members, increasing the efficiency and effectiveness of VMS monitoring.<sup>157</sup>

Since AIS data is meant to prevent vessel collisions, it is always openly available and accessible.<sup>158</sup> AIS devices also broadcast the vessel's identity (callsign, name, IMO number, activity, and size), which allows the monitor to distinguish and track specific fishing vessels.<sup>159</sup> AIS data is already being used to track vessels identified by RFMOs as known IUU fishing vessels.<sup>160</sup> A partnership between Oceana, Google, and SkyTruth has created Global Fishing Watch, a nonprofit dedicated to tracking vessels in the fishing industry.<sup>161</sup>

Satellite data from vessel AIS can be used to identify vessels likely engaged in IUU fishing and sea slavery.<sup>162</sup> A recent study revealed that in analyzing certain behaviors obtained through AIS data, fishing vessels using forced labor can be correctly identified between 92-100% of the time.<sup>163</sup> Computer analytics use data obtained through investigative reports, interviews,

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<sup>156</sup> The justification for not sharing VMS data is based on the concern that it would reveal proprietary information about the best fishing locations, and in which areas vessels typically see success. Nations worry that sharing VMS data would open them up to more competition for fisheries resources. However, states are increasingly entering into multilateral data-sharing agreements where they share data in real-time. See *Understanding Fishing Activity Using AIS and VMS*, *supra* note 156.

<sup>157</sup> PEW CHARITABLE TRUSTS, TRACKING FISHING VESSELS AROUND THE GLOBE (2017), [https://www.pewtrusts.org/-/media/assets/2017/04/illegal\\_fishing\\_tracking\\_fishing\\_vessels\\_around\\_the\\_globe.pdf](https://www.pewtrusts.org/-/media/assets/2017/04/illegal_fishing_tracking_fishing_vessels_around_the_globe.pdf).

<sup>158</sup> The lack of encryption in the system means that vessel positions can be manipulated; however, this "spoofing" or intentional manipulation of vessel location happens with great infrequency and is readily identifiable when it occurs. See *Understanding Fishing Activity Using AIS and VMS*, *supra* note 156.

<sup>159</sup> *Id.*

<sup>160</sup> Oceana hosts an interactive map that users can employ to track vessels currently included on RFMO's IUU fishing lists. The tool takes data from the Combined IUU Vessel List, which merges all RFMO IUU vessels into one list. *IUU Vessel Tracker*, OCEANA, <https://usa.oceana.org/iuuvesseltracker/> (last visited Nov. 30, 2023); Combined IUU Vessel List, TRYGG MAT TRACKING, <https://www.iuu-vessels.org> (last visited Nov. 30, 2023).

<sup>161</sup> GLOBAL FISHING WATCH, <https://globalfishingwatch.org> (last visited Nov. 30, 2023).

<sup>162</sup> McDonald et al., *supra* note 38.

<sup>163</sup> *Id.*

and insider information to identify behaviors likely indicative of forced labor on fishing vessels.<sup>164</sup> These same behaviors are indicative of some forms of IUU fishing as well. Vessels engaged in sea slavery often travel farther from shore, fish more hours per day than other vessels, and take fewer voyages of longer duration.<sup>165</sup>

To ensure the ability of groups like Global Fishing Watch to access AIS broadcasts, the PSMA should require that all vessels seeking port entry to install and maintain AIS systems in compliance with the AIS performance standards set by the International Maritime Organization (IMO).<sup>166</sup> The PSMA could develop a system wherein vessels identified as “going dark,”<sup>167</sup> are automatically added to the IUU fishing identification list, thereby triggering more stringent port inspections. By requiring AIS systems to always remain on, the PSMA would establish a mechanism for monitoring that spans the globe and reduces the ability of vessels to hide on the high seas. This monitoring would be useful for port inspections under the PSMA when vessels seek to land their catches, but also for import programs like the U.S. SIMP and EU regulation. With access to AIS information and associated databases of identified high-risk vessels, national and regional import systems can place more stringent certification requirements on flagged vessels.

*ii. Establish a Database of Identified Vessels for Use by Port and Import Inspectors Under the PSMA, EU Regulations and SIMP*

To ensure that AIS satellite monitoring and analytics are effectively used, a global database must be established that both identifies suspected IUU vessels and updates their locations. In doing so, port inspectors could have access to the

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<sup>164</sup> *Id.*

<sup>165</sup> *Id.*

<sup>166</sup> International Convention for the Safety of Life at Sea, V/19, Nov. 1, 1974, 46 C.F.R. § 115.900 *et seq.*, 1184 U.N.T.S. 3 [hereinafter SOLAS].

<sup>167</sup> “Going dark” refers to when ships turn off their AIS systems. There are methods to identify AIS signal drops that are not intentional. This is done by “analyzing the frequency and regularity of signals before and after a gap occurs.” Kimbra Cutlip, *Going Dark: When Vessels Turn Off AIS Broadcasts*, GLOBAL FISHING WATCH (July 30, 2016), <https://globalfishingwatch.org/data/going-dark-when-vessels-turn-off-ais-broadcasts/>.

detailed information obtained through AIS monitoring, to look for specific, identifiable indicators of IUU fishing in their inspections.<sup>168</sup> The PSMA recognizes that communications technologies, databases, and networks are rapidly developing and can be valuable in supporting port inspections.<sup>169</sup>

In fact, the technology to track, analyze and organize vessel data into a productive database already exists. Global Fishing Watch has just launched their Vessel Viewer, an open access database tool that provides information on a vessel's identity, fishing activity, port visits, authorizations and transshipments.<sup>170</sup> When utilized by ports, the Vessel Viewer, which also allows custom searches, vessel grouping and sharable PDF files, would allow ports to access the very data necessary to identify forced labor and illegal fishing.<sup>171</sup>

The GIES pilot program, which is used to track and compile port inspection data, could be a useful medium for this database. The PSMA should establish the GIES system in tandem with databases like the Vessel Viewer, to identify potential IUU vessels, display their location, log which ports they visited, and facilitate the sharing of port inspection information. In doing so, not only would the PSMA empower port inspectors to contribute to the monitoring and enforcement of IUU fishing, but it would also create a shared responsibility for ensuring compliance. If AIS tracking and data analytics can identify potential IUU vessels and where those vessels are docked, the database can be used not only to identify the illegal actors but also to ensure that the individual ports are complying with what the PSMA requires.

Ensuring that IUU fishing is addressed not just on vessels but throughout the industry is integral to ending the practice. The Work in Fishing Convention, for example, enables corruption and non-compliance since it requires member

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<sup>168</sup> These inspections can be informed by the ILOs indicators of forced labor. SPECIAL ACTION PROGRAMME TO COMBAT FORCED LABOUR, INT'L LAB. ORG., ILO INDICATORS OF FORCED LABOUR (2012), [https://www.ilo.org/wcmsp5/groups/public/---ed\\_norm/---declaration/documents/publication/wcms\\_203832.pdf](https://www.ilo.org/wcmsp5/groups/public/---ed_norm/---declaration/documents/publication/wcms_203832.pdf).

<sup>169</sup> PSMA, *supra* note 20, at viii.

<sup>170</sup> Vessel Viewer, GLOBAL FISHING WATCH, <https://globalfishingwatch.org/vessel-viewer-tool/> (last visited Nov. 4, 2023).

<sup>171</sup> *Id.*

states to validate their own fishing vessels.<sup>172</sup> Since ratifying the Work in Fishing Convention, Thailand has instituted its PIPO system of inspection in which vessels are inspected before they leave the port and when they return. Under this system, however, inspectors are not required to board the vessels or interview crew members.<sup>173</sup>

Pink cards are the primary registration mechanism for migrants in Thailand.<sup>174</sup> Under this regime, migrant workers are tied to specific vessels and employers, essentially giving the vessel captains control over the legal status of the workers.<sup>175</sup> Vessel inspections only verify the status of the worker's pink cards and not whether they have been forced into labor.<sup>176</sup> This scheme ties the worker to the vessel captain, checking only whether the captain documents his workers and not whether he wrongfully enslaves them.<sup>177</sup> The Thai fishing fleet has remained unaffected by the PIPO and pink card systems, as reflected by Thailand's determination that not a single case of child labor, forced labor, or human trafficking was detected on inspected vessels since PIPO's inception in 2015.<sup>178</sup>

Identifying a database to inform port inspections, trade certification schemes, and monitoring on the high seas would turn the satellite analysis of IUU fishing into actionable data accessible to everyone. The creation and population of a database would allow, not just states, but private security firms, NGOs, and other stakeholders to contribute to monitoring in the industry, which can then inform the shared enforcement of port states. Spreading out the responsibility of monitoring and enforcement would not only ensure that it occurs with more

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<sup>172</sup> ILO C-188, *supra* note 21, at art. 7.

<sup>173</sup> ENVIRONMENTAL JUSTICE FOUNDATION, THAILAND'S PROGRESS IN COMBATING IUU, FORCED LABOUR AND HUMAN TRAFFICKING, EJF OBSERVATIONS AND RECOMMENDATIONS vol. 7 (2019), <https://ejfoundation.org/resources/downloads/EJF-PIPO-Technical-Report-update-spring-2019.pdf>

<sup>174</sup> *Hidden Chains*, *supra* note 53, at 3.

<sup>175</sup> *Id.*

<sup>176</sup> *Id.*

<sup>177</sup> *Id.* at 7.

<sup>178</sup> Forced labor in the Thai industry persists. Human Rights Watch found that 90 of 138 fishers interviewed were in forced labor situations. *Id.* at 4.

regularity and a higher degree of effectiveness, but that states are held visibly accountable for their compliance.

Publicizing, compiling, and utilizing AIS data and behavior analytics in tandem with detailed port inspection reports creates a system in which noncompliance would be extremely difficult to hide. For example, AIS monitoring could identify when vessels disengage their AIS, thereby flagging an activity that could be indicative of IUU fishing. If a comprehensive database existed to inform port inspections, then when that vessel docks, the inspector would be aware of the AIS discrepancy and could respond accordingly.<sup>179</sup> If the inspection fails to investigate the vessel for IUU fishing, despite the AIS discrepancy, that would also be available in the database, thereby alerting other ports that the vessel had been flagged for disengaging its AIS and that the port inspector failed to investigate it. In creating that system of checks, the vessels are more likely to be adequately investigated and ports that fail to adequately inspect vessels can be identified and pressured into better compliance.

Additionally, national and regional import programs could increase certification requirements to hold ports accountable. If certain ports are more favorable than others to IUU fishing vessels,<sup>180</sup> regional and national frameworks could identify which port inspections are acceptable in terms of certification. For example, if a port has been shown to inadequately inspect vessels under the PSMA, is not a party to the PSMA, or has been warned by other nations for poor compliance in conducting inspections, the import certification schemes might disallow seafood landed or certified at those ports. This would increase port compliance under the PSMA as ports do not want to be ostracized and incentivize the use of ports that comply with PSMA standards.

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<sup>179</sup> This database is not a distant technology. Global Fishing Watch can already synthesize this data and make it available. What is necessary is the political will to implement the PSMA to the highest ability and ensure universal ratification. Kimbra Cutlip, *What Ports Can Tell Us*, GLOBAL FISHING WATCH (Sept. 22, 2016), <https://globalfishingwatch.org/data/what-ports-can-tell-us/>.

<sup>180</sup> Research suggests “that a country’s risk of illegal fishing is positively related to the number of commercially significant species found within its territorial waters and its proximity to known ports of convenience.” Gohar Petrossian, *Preventing Illegal, Unreported and Unregulated (IUU) Fishing: A Situational Approach*, 189 BIOLOGICAL CONSERVATION 1 (2014).

If IUU fishing vessels cannot land their catch at a port that inadequately inspects vessels under the PSMA, and national and regional systems refuse to accept their port certification, they would be left with no choice but to comply and submit to adequate port inspections. A change in just the U.S. and EU trade certification schemes could force the entire industry into compliance. The U.S. and EU represented a combined \$62.1 billion USD in seafood imports in 2021.<sup>181</sup>

*iii. Increase Compliance and Participation Through Government Subsidization of Monitoring Technologies*

Subsidization of industrial fishing has been a longstanding international issue.<sup>182</sup> In 2019 alone, \$35.4 billion USD was used to subsidize fishing fleets.<sup>183</sup> Of that, \$22 billion USD was found to be harmful or capacity-enhancing subsidies, which allow fleets to engage in overfishing.<sup>184</sup> These subsidies affect capital costs for fishing fleets by bolstering fuel costs or replacing engines, thereby reducing operating costs and increasing profit while helping vessels overfish.<sup>185</sup>

After more than two decades of negotiations, the WTO adopted a fisheries subsidies agreement in 2022.<sup>186</sup> This agreement will not be binding until it is ratified by 109 member states.<sup>187</sup> Notably, the agreement would prohibit any

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<sup>181</sup> Jason Holland, *Rabobank: Global Seafood Trade Value Rebounds to USD 164 Billion*, SEAFOOD SOURCE (May 23, 2022), <https://www.seafoodsource.com/news/supply-trade/rabobank-global-seafood-trade-value-rebounds-to-usd-164-billion>.

<sup>182</sup> Ending harmful fishing subsidies is recognized as a target in the Sustainable Development Goals. Sustainable Development Goals, *supra* note 144, at 14.6.

<sup>183</sup> Rashid Sumaila et al., *Updated Estimates and Analysis of Global Fisheries Subsidies*, 109 MARINE POL'Y 103695 (2019).

<sup>184</sup> *Id.*

<sup>185</sup> Roger Martini, *Many Government Subsidies Lead to Overfishing. Here's a Solution*, ORG. FOR ECON COOP. & DEV. (Feb. 28, 2019), <https://www.oecd.org/agriculture/government-subsidies-overfishing/>.

<sup>186</sup> World Trade Organization, Draft Ministerial Decision of 17 June 2022, WTO Doc. WT/MIN(22)/W/22 (2022) [hereinafter Draft Subsidy Agreement].

<sup>187</sup> John Briley, *A Global Deal to End Harmful Fisheries Subsidies*, TRUST MAGAZINE (Feb. 1, 2023), <https://www.pewtrusts.org/en/trust/archive/winter-2023/a-global-deal-to-end-harmful-fisheries-subsidies>.



member from providing subsidies to a vessel engaged in IUU fishing, or activities in support of IUU fishing.<sup>188</sup>

Under the agreement, a vessel can be affirmatively determined to be engaged in IUU fishing by a RFMO in accordance with the rules of international law.<sup>189</sup> Additionally, member states can notify subsidizing members when they believe a vessel in one of its ports has engaged in IUU fishing and the subsidizing state must take appropriate action.<sup>190</sup> If the definition of IUU fishing were expanded, satellite monitoring fully utilized, and a database created for port inspections under the PSMA, this information and the port state's notification of the subsidizing state would be publicly available information. That degree of transparency and shared responsibility in monitoring would allow for both consumer and international pressure to be placed on states that fail to appropriately act. This makes the expansion of IUU fishing to include sea slavery an even more necessary and critical step.

Without implementing AIS and VMS systems on every vessel, it would be impossible to identify every vessel engaged in IUU fishing. If the vessels cannot be identified, governments cannot be expected to withhold subsidization. It is thus imperative that subsidies require and provide resources to implement AIS and VMS devices on every commercial fishing vessel.

Governments should therefore require working AIS and VMS devices on every vessel in their fleets as a condition of receiving any form of government subsidies. There may be latitude in these arrangements—for example, a government may provide only subsidies for labor costs and not for fuel unless the devices are installed and appropriately maintained. In requiring the installation, continued use, and maintenance of AIS and VMS devices on every fishing vessel in its fleet, governments create a system wherein subsidization provides for the technology to help end IUU fishing, and not the money to engage in it.

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<sup>188</sup> Draft Subsidy Agreement, *supra* note 188, at art. 3.

<sup>189</sup> *Id.* at art. 3.2(c).

<sup>190</sup> *Id.* at art. 3.6.

## V. CONCLUSION

By substantively redefining IUU fishing to include sea slavery, existing mechanisms facilitating international cooperation to end IUU fishing can address sea slavery as well. IUU fishing encourages sea slavery, and in turn, sea slavery enables IUU fishing. To address one issue separately from the other not only ignores human rights in the quest for sustainability, but it undercuts any measure of success that can be feasibly achieved. Satellite monitoring and data analytics should be used to identify vessels engaged in IUU fishing and sea slavery. That information should be built into a database and required as a tool for port inspectors, which will inform port inspections, track inspection findings and queries, and more readily identify particular vessels and fleets operating outside the bounds of the law. The information gathered through the monitoring and inspection should inform government subsidization of fishing fleets in both quantity and quality, as governments should rely on demonstrated behavior to award subsidies. Additionally, subsidization should be conditioned on the presence and uninterrupted use of AIS and VMS devices on all fishing vessels.

The vastness of the ocean and its global utilization presents problems that require innovative, collaborative, and comprehensive solutions. Sea slavery is a uniquely difficult issue to address because it happens in a place where nobody is around to witness and respond to it. However, because it happens alongside IUU fishing, and helps to produce the most widely traded commodity on the planet, the existing avenues established to address IUU fishing are the most direct way to tackle the issue. To treat the issues separately ignores the symbiotic way the issues interact. If the international community fails to protect the men and young boys forced to feed the world on distant water vessels alongside its efforts to end IUU fishing, the world's seafood can never be considered truly sustainable.